DOCUMENT RESUME

ED 233 862 RC 014 299

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TITLE Measurement of the Organizational Effectiveness of the Cooperative Extension Service.
PUB DATE 83
NOTE 34p.; Paper presented at the Annual Meeting of the Rural Sociological Society (Lexington, KY, August 1983).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Citizen Participation; Educational Objectives; *Evaluation Criteria; *Extension Agents; *Extension Education; Job Analysis; Job Performance; Management by Objectives; Needs Assessment; *Organizational Effectiveness; Participative Decision Making; *Performance Factors; Program Development; *Program Effectiveness; Program Evaluation; Rural Extension; Success
IDENTIFIERS *Cooperative Extension Service

ABSTRACT

Measurement of the organizational effectiveness of the Cooperative Extension Service (CES) could be enhanced by utilizing a multidimensional perspective in measuring outcomes of various organizational activities, particularly the Extension educational system of program development. Because multiple and conflicting environmental constraints, goals, constituents, and time frames can influence effective performance (inputs), individual performance (outputs), and changes in behavior of constituents (program accomplishments), factors within and beyond the control of CES must be included. The strength of the CES educational system is in its involvement of people in the program development process of determining planning and carrying out programs that meet their needs. Because of the importance of individual performance in carrying out system activities, organizational effectiveness is linked to measures of individual performance. Five procedural requirements are necessary to provide accurate and relevant results: needs assessment; job analysis of critical incidents necessary for effective performance; multivariant measurement and analyses to assess accuracy and relevance of measures used to determine individual performance and program accomplishments as they relate to organizational effectiveness; recognition of factors beyond organizational control and the range of options open to organizations; and commitment of adequate resources and administrative support to the task. (MH)

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ED233862

# Measurement of the Organizational Effectiveness of the Cooperative Extension Service

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Prepared for presentation at the annual meeting of the Rural Sociological Society, Lexington, Kentucky, August, 1983

RC014299

## INTRODUCTION

Cooperative Extension has a long history of "helping people to help themselves." Measurement of their effectiveness, however, has not come easy. The Farm Bill of 1977, for example, mandated that large-scale evaluations of the social and economic consequences of Extension programs be conducted. In fulfilling the mandate for a national evaluation, the Secretary of Agriculture (1980) reported that two major limitations were encountered in most efforts to measure consequences:

1. The difficulty in precisely measuring change as a consequence of education.
2. The lack of sufficient data and a refined conceptual framework to adequately measure social and economic consequences of Extension programmers.

Patton (1980) contends that Cooperative Extension will have difficulty in evaluating its efforts because there is no single treatment to be studied. That is, because every county and every state designs subject-matter educational programs differently, there is no such thing as "the" Extension program. Given the diffused nature of Extension programs, it is Patton's belief that national evaluations of national programs typically disguise more than they reveal. He explains (1980: 73):

> When a standardized data-collection format is imposed upon thousands of local projects across the country and data collected in this standardized fashion is aggregated across the country, the result is more myth than reality . . . When national programs are implemented at the local level, the variations that result are so complex and so tied to local circumstances that no standardized format and no scheme of aggregation can reasonably represent and do justice to that complexity and those multitudes of adaptations.

While many may have come to similar conclusions, the need for alternative measures of organizational effectiveness continues to exist.

In attempting to meet this need, some have turned to effectiveness measures based on meeting clientele needs. Kappa Systems, Inc. (1979), for example, reviewed over 350 Extension studies directed toward evaluation of Extension program impacts. Results were categorized in terms of (1) learning by clientele, (2) applications of learning resulting in practices or actions carried out by clientele, and (3) results of applications including social or economic benefits accruing to clientele.

Others have focused on standardized subjective measures of citizen reactions to Extension programs.[1] Bennett (1982), for example, has developed an evaluation procedure entitled "Reflective Appraisal of Programs" (RAP) which relies on perceptions or "reflective" evidence on the results of programs. Program participants estimate the extent to which a program brought about change and "pay off."

Christenson and Warner (1982) expanded upon this approach in developing an assessment model which relates organizational effectiveness to intended outcomes as defined by participants and nonparticipants within a particular environment. In explaining their assessment model, the authors draw from Holzer (1976) who contends that client satisfaction with a public organization's

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[1] For a more thorough listing of views toward use of qualitative methods in evaluation research, the reader is referred to Filstead (1981).

goods and services serves a similar role as the sales and profit information for the private sector.

While such evaluation efforts may prove to be useful, the conceptual frameworks upon which these efforts are based are limited in scope and do not reflect outcomes of the various organizational activities conducted by Cooperative Extension Service (see Mulford et al., 1977). Nor do they consider the performance of the people who carry out Extension programs (Citizens Review Panel, 1980). The linkage between program accomplishments and individual performance is increasing in importance because while role expectations of individuals may be determined within the broader organizational context (Kahn et al., 1964), there are times when individual discretions are crucial for organizational survival (Hall, 1982).

Because of the multidimensional nature of effectiveness, Hall (1982) contends that effectiveness as an overall concept has little or no utility. Organizations may be more or less effective in regard to the variety of goals they pursue, the variety of resources they attempt to acquire, the variety of constituents inside and outside the organization and the variety of time frames by which effectiveness is judged. Hall (1982: 302) concludes that no organization is effective. Instead, an organization can be viewed as effective (or ineffective) to some degree in terms of its efforts to meet multiple and conflicting environmental constraints, goals, constituents, and time frames.

It is the position of this paper that if efforts to measure the organizational effectiveness of Cooperative Extension Service are to provide meaningful results, such efforts must be based on a multidimensional framework. This framework, in turn, should reflect the major activities of Cooperative Extension Service in carrying out its mission. Further, because of the diffused nature of Extension programs, measures of individual performance in carrying out major activities should be linked to measures of program accomplishments.

Finally, the contradictory nature of organizational effectiveness must be part of any measurement framework. That is, analysts and others must recognize both the range of options open to Cooperative Extension Service and the existence of factors beyond organizational control as Extension confronts contraints and mandates and attempts to move toward goal accomplishment and cope with the issues of multiple constituents and conflicting time frames (Hall, 1982).

In support of the position taken by this paper, a framework for measuring the organizational effectiveness of Cooperative Extension Service will be offered. The framework focuses first on the major activities of Cooperative Extension Service in carrrying out its mission. Second, measures of individual performance necessary to carry out major activities will be linked to measures of program accomplishments. Finally, the methodological and statistical rigor necessary to link a relevant

and accurate performance appraisal instrument to measures of program accomplishments will be described.

In sum, this framework proposes to measure critical behavior necessary for effective performance (inputs), individual performance (outputs), and changes in behavior of constituency (program accomplishments). This framework is based on the perspective that because multiple and conflicting environmental constraints, goals, constituents, and time frames can influence inputs, outputs, and program accomplishments, factors within and beyond the control of Cooperative Extension Service must be included in the operationalization of the framework.

## EXTENSION EDUCATIONAL ACTIVITIES

The Extension Committee on Organization and Policy (ECOP) endorses the view of Cooperative Extension Service as a dynamic educational system oriented to the development of educational programs designed to meet the changing needs of diverse publics. The strength of this system is in its involvement of people in the program development process in determining, planning and carrying out programs that meet their needs. In developing educational programs, Extension considers it especially important to involve people in identifying needs, concerns, and interests and to analyze problems that concern and affect them (Lawrence et al., 1974). An illustration of the Extension educational system is provided in Figure 1.

(Figure 1 about here)

Several major activities have been identified by Lawrence et al. (1974) as being critical to the effective implementation of the Extension educational system. First, it is necessary for Extension staff to establish the program development concept of "helping people to help themselves." The process of Extension education involves working "with" people and not "for" them.

The second major activity is to involve people in the process of developing programs. This process requires interaction of clientele, Extension staff (including agents, specialists, supervisors, and administrators), and Extension advisory and support groups. Third, educational program priorities must be established. Lawrence et al. (1974) lists four actions to help determine such priorities:

1. Determine expressed needs of people as derived from local Extension program development committees.
2. Analysis of the environment and other conditions of society.
3. Emerging research results.
4. Administrative response to recommendations and pressures of Cooperative Extension support groups.

Program priorities are then reflected in an Extension plan or work.

The fourth major program development activity of Cooperative Extension Service is to implement its educational programs as defined in a plan of work. Activities in support of this effort include arranging facilities and resources for educational programs, conducting teaching activities, coordination of

educational events with other organizations and involving lay people in the conduct of the Extension program.

The final activity in the program development process is to objectively evaluate the progress and accomplishments made toward the program goals. Extension staff are expected to assess the degree to which goals are achieved, determine the effectiveness of specific inputs for achieving change and use results of evaluations in redirecting program efforts and adjusting strategy (Lawrence et al., 1974).

Although the Extension program development process assumes that findings of the evaluation will be applicable to further development of the Extension educational system, the assumption, generally, is not warranted. Not only do most evaluations encounter difficulty in measuring consequences, the results of such studies are often misinterpreted. The Citizens Review Panel (1980) expressed a concern that the national evaluation of Extension would lead to some unfortunate consequences of its own. The Panel reported that, due to insufficient and sometimes misleading data, Congress could draw the wrong conclusion about the usefulness of Extension programs.

One reason for this is that the contradictory nature of organizational effectiveness is not adequately addressed by most efforts to measure Extension accomplishments. Imposed environmental constraints (such as affirmative action regulations), for example, may contribute to or detract from who is involved in and supportive of the Extension program

development process. In addition, internal and external constituencies may influence the type and priority of program goals that are established. Finally, multiple and conflicting time frames and goals can have a major impact on both job satisfaction and productivity of individual employees (see Mulford et al., 1977).

Thus, it is essential that measurement of the major activities in support of the program development process be part of a framework to measure organizational effectiveness. According to Rutman (1977: 18):

> . . . while evaluation research places major emphasis on the use of generally accepted scientific procedures to collect reliable and valid data, the focus of evaluation is on program processes and not merely on effects or outcomes.

The utility of such measurement is aptly illustrated by Rossi et al. (1979: 132) who have found that a large proportion of programs that fail to show impacts are really failures to deliver interventions (programs) in ways specified. The authors list three potential failures:

1. Little or no program is deliverable to the clientele.
2. The wrong program is delivered.
3. The program is uncontrolled, unstandardized or varies across target populations.

It is the position of this paper that an accurate and relevant performance appraisal system could contribute to the determination that programs are being carried out in ways specified. Accurate measurement of both program processes and

individual performance in carrying out those processes, in turn, should contribute to a more accurate appraisal of program impact.

A conceptual framework which addresses the multidimensional nature of organizational effectiveness in presented in Figure 2. The framework identifies critical behavior necessary for effective performance (inputs), individual performance (outputs) and changes in behavior of constituency (program results).

(Figure 2 about here)

## PERFORMANCE APPRAISAL

Although the accurate appraisal of the performance of county Extension agents has long been a major concern of Cooperative Extension Service, most Extension performance appraisal methods have been based on personal traits or characteristics having little relationship to measurement of organizational effectiveness. In recent years, there has been growing support by Extension administrators and others for an accurate and relevant performance appraisal system that could contribute not only to judgemental decisions about personnel but also to development decisions concerning individual performance related to programs accomplishments.

According to Cummings and Schwab (1973), judgemental appraisal provides results for administrative decisions concerning such aspects as rewards based on merit, promotions, transfer and termination. Developmental appraisal provides results to help improve performance by identifying areas for program improvement and individual growth. By focusing on both

past accomplishments and on improvements in future performance, a performance appraisal system becomes an important component of organizational effectiveness.

## Methods of Performance Appraisal

Two general approaches to performance appraisal can be linked to organizational effectiveness. One approach focuses on behavior by identifying the critical behaviors necessary for effective performance. A second approach concentrates on measurement of accomplishment of performance goals (Haynes, 1978).

### Critical Behavior

Performance appraisal methods used in measurement of critical behavior necessary for effective performance generally are based on comparisons of individuals to absolute standards. Procedures used to compare individual performance to absolute standards normally follows one of two approaches. The first aproach uses a qualitative basis to determine the existence of performance behavior. That is, the supervisor is asked to indicate whether the employee possesses or does not possess the performance characteristics of interest. The second approach attempts to quantify the degree to which the employee possesses certain performance characteristics.

With some modifications, comparison of individuals to standards can be related directly to measures of organization

effectiveness. The following sections describe the nature of those modifications.

Existence of Behavior

The development of indicators to measure the existence of performance characteristics generally is based on the critical incidents technique. The critical incident technique identifies activities that are critical to one's job. Outcomes of performance are then measured against those activities. The advantage of the critical incident technique is that it provides more feedback of required information and it can seek available items that have been shown to differentiate between successful and unsuccessful performers. The disadvantage of the critical incident approach is that considerable time is needed for collecting items critical to one's job performance. A partial listing of critical incidents in program development was reported in Figure 2.

The weighted checklist method generally is used to measure behavioral outcomes of performance. An example weighted checklist is presented in Figure 3. One's performance evaluation score is determined by summing the weights of the outcomes that have been checked (Cummings and Schwab, 1973). As illustrated by the outcomes listed in Figure 3, critical incidents necessary to successful job performance also are necessary for effective programs.

(Figure 3 about here)

Knauft (1948) describes four advantages in using the weighted checklist to score outcomes of performance.

1. It provides an objective and rapid method of scoring the completed forms.
2. The exact values or weights of each outcome are unknown to the raters and may not be readily deduced by them.
3. Raters require very few directions and no extensive training program in rating techniques.
4. The weighted checklist may be used as an overall criterion measure if it is constructed to sample a large number of different aspects of the employee's on-the-job behavior.

The weak point of the weighted checklist is arriving at a proper weighting of various items on the checklist (Haynes, 1978).

Degree of Behavior

Linkage between organizational effectiveness and the degree to which employees display critical behavior necessary for effective performance can be obtained using a behaviorally-anchored rating scale. According to Cummings and Schwab (1973), scale items are based on the critical incident process described earlier and are divided into several categories of items. The value assigned to each item is weighted (similar to the weighted checklist) from very low to very high. The evaluator is asked to select the one item which best describes the employee's behavior for each category measured. An employee's evaluation score is the sum of the category scores. An example behaviorally anchored rating scale is presented in Figure 4.

(Figure 4 about here)

## Performance Goals

The second major approach to performance appraisal relates to accomplishment of performance goals. Measurement of performance goals involves the supervisor and the employee in a discussion to set performance goals or objectives in support of the organization. Performance appraisal methods often used in such settings include management by objectives and direct indexes.

### Management by Objectives

Management by objectives (MBO) measures performance in terms of goal accomplishment. According to Cummings and Schwab (1973), the employee (with supervisor approval) defines goals to be accomplished during some specified time period. Goal statements may be set for methods, means of accomplishment, or desired outcomes.[1] MBO can be related directly to organizational effectiveness when such goals are stated in terms of desired program outcomes. Illustrations of performance goals were reported in Figure 2.

One major strength of MBO is that it sets unique goals for each employee and supports the view that goals are an important determinant of performance. In addition, performance can be accurately measured in situations where jobs can vary with the can lead to the unrealistic adoption of rigid and/or quota-

[1]Goal statements related to methods or means of accomplishment are often based on standards of critical behavior.

capabilities and interests of the individual. Conversely, MBO oriented goals. Also, MBO provides limited information for the equitable distribution of rewards because goals are individualized and may not be comparable across individuals. When such comparisons are needed, measures of critical behavior are recommended.

Direct Indexes

A second measure of goal accomplishment measures productivity directly. Direct indexes are used to measure quantity or quality of output. Examples of quantitative indicators include hours worked, miles traveled, meetings conducted, publications prepared, people reached, and changes made by clientele. Quality measures include clientele reactions to programs and publications and supervisory observation of agents in action. As reported earlier, Christenson and Warner (1982) describe how constituent satisfaction can be used as a measure of organizational effectiveness.

## Validation of Performance Appraisal

Regardless of the performance appraisal approach selected, accuracy and relevance are two major concerns a performance appraisal instrument must address. Accuracy relates to the chance of measurement error produced by the performance appraisal instrument while relevance addresses whether a performance appraisal procedure is deficient in measuring important elements of a particular dimension or construct of interest. Because the

accuracy and relevance of any performance appraisal instrument is affected by measurement error, the procedures used to construct and test a performance appraisal instrument must be verifiable.[1] Steps in the development of a performance appraisal instrument that can be affected by measurement error include job analysis (content analysis), item selection, item scoring system followed, and procedures used to measure reliability and validity.

Job Analysis

Job analysis attempts to describe a job in terms of the demands made upon the individual job incumbent (Cummings and Schwab, 1973). Job analysis has two major objectives. The first focuses on the outcomes of tasks which identify the goal of the activity and the level of performance necessary to reach the goal. The second major objective emphasizes the behavioral content a worker does on the job (Cummings and Schwab, 1973). Information about outcomes and employee behavior is required to aid in determining the job requirements which account for success on the job. The critical incident technique and checklist, as described previously, normally are used in the process of job analysis.

Job analysis can make a substantial contribution to measurement of both individual and organizational effectiveness. However, because Extension work is quite complex and includes a

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[1]For more information on validation of performance appraisal, see Ladewig and Shiao, 1983.

variety of clienteles and a diversity of subject matter, performance appraisal systems have failed to bring viewpoints closer together. One reason for this failure is that, in the past, appraisal focused on personal traits, methods, or procedures rather than the job assigned and the results expected (Durfee, 1970). To help overcome this situation, the American Institutes for Research (1979) has conducted a rigorous procedure of collecting information and materials in support of a job analysis of county Extension agents.

Item Selection

Multi-item measures normally are recommended for use in performance appraisal because individual items obtain their own specificity and have a low correlation with the attribute being measured. In addition, most research attempts to place people in separate categories in order to find further explanations of human interaction and behavioral patterns. A one-item measure can seldom fulfill this function (Nunally and Durham, 1975). Consequently, items used to measure performance should be homogeneous and reflect internal consistency to each other and to the total scale score. A correlation index of item-total score correlation can be used as a standard to eliminate inconsistent items.

Scoring System

A scoring system can be divided into two basic components: values assigned to items or dimensions and calculation of a total

score for an individual. Each component can affect the accuracy of the performance appraisal form.

Item Values

The scale value of each item or statement represents the degree of effective performance or accomplishment by an agent on a particular dimension. The use of few items to measure a dimension leads to the problem of scarcity of employees in the middle range of the performance continuum. To avoid this problem, the scale value for each performance item is weighted. Item values can then be summated to obtain a total score for an individual. It is difficult, however, to determine the type of weighting scores that could approach the true value of individual items because weighted scores generally are derived from a norm-referenced group and are confined to the generalization and standardization of a particular scoring system.

In general, a weighted value could be assigned to the subjective judgements of professional or assessed from the empirical analysis of the construct structure of job requirements. Stanley and Wang (1970) believe a pre-weighted score to be less effective than an empirically-weighted score because no consistent results are produced by using pre-weighted scores based on either differential weighting or equal weighting in determining the intercorrelations of item scores.

Consequently, it may prove to be more accurate to classify the different weighting ranks on each job dimension than to weight a value of each item because the job dimensions have a

more explicitly constructed definition. Weighting of the dimensions may be done in terms of their interrelation with job duty or their contribution to organizational effectiveness (Cummings and Schwab, 1973). If the job dimensions are collected using a critical incident procedure, the job dimensions will represent both successful and unsuccessful performances. In addition, the comparative importance of each dimension can be identified by a factor analysis of performance outcomes. The factor loading would be used as the criterion to weight each job dimension if such job dimensions are independent of each other.

Total Score

In measuring the existence or degree of critical behavior displayed, an overall rating score generally is calculated to rank the employee's performance. The summated score of all items checked is usually calculated to indicate the individual performance score. The weakness of summated scores is that employees can obtain similar total summated scores based on responses to different items.

The scoring system used in a performance appraisal form should be one which allows scores to be transformed to Z-scores or T-scores. A percentile score is suggested for use only when items have not been provided with an interval scale type. Because the percentile score cannot be treated as a linear distribution, it is difficult for one to accurately estimate the chance error produced from the distribution of percentile scores.

Reliability

Reliability is concerned with the extent to which a test or any measuring procedure yields the same results with repeated use. The reliability of the performance appraisal form can be affected by bias of the instrument, subjective judgement of different raters, and the procedures used for item selection.

While Cummings and Schwab (1973) emphasize several approaches to reduce measurement error, they state that attention should be directed to two particular types of error.

1. Variable error comes from the disagreement about an appraisee's score on some items by two or more evaluators or the disagreement resulting from administering an appraisal at two points in time.

2. Constant error comes from the occurrence of halo error and leniency error. Halo error occurs when an evaluator rates an appraisee as good or bad on all characteristics based on knowledge of only one characteristic. Leniency error occurs when an evaluator tends to rate everyone too high, too low, or gives an average rating.

A correlation analysis measuring evaluator disagreements can be utilized to indicate the degree of rating error. It sometimes is difficult to control all sources of error at one time because there is a necessary relationship between constant and variable error. If an evaluator selects only one kind of rater and holds the rating time constant, the variable error would be reduced, but the halo error and leniency error would still exist. The training and motivation of raters are probably the most important factors in reducing these types of measurement error.

The dimensionality of the rating will be more accurately validated by the reliable content of the rating form than by

using different patterns of raters. Therefore, increases in reliability and validity of appraisal forms should reduce the possible bias of supervisor ratings.

Although many devices can be chosen to measure the reliability of a test, the power of statistical interpretation provides the strongest evidence of the reliability procedure. Such tests include the discrimination index, measures of internal consistency and factor analysis (Carmines and Zeller, 1979).

Validity

Validity is concerned with the extent to which an instrument measures what it intended to measure. The threat to the validity of a test often comes from a systematic biasing of test content, construct structure, item selection, and presumed predicted indicator. Basically, three types of validity estimation can be applied to assess the extent to which an instrument measures what it purports to measure: content, construct and criterion (Carmines and Zeller, 1979).

Because of the need to create composite scales to measure performance, this paper is concerned primarily with the multidimensional characteristics of the performance appraisal form or its construct validity. The objective of construct validity is to make the measure of the performance form as similar as possible to the conceptual definition of the construct. This can be accomplished through such activities as job analysis, successful task performance definition, and the

development of item construction procedures to increase the validity of particular constructs.

Several methods have been developed to measure construct validity. The multitrait-multimethod approach (Campbell and Fiske, 1959) is one type of assessment of test validity. This method is designed to measure the association of some construct and involves two criteria:

1. Convergent validity - Tests designed to measure a specific construct should correlate highly among themselves.

2. Discriminant validity - Tests designed to measure a specific construct should not correlate with tests designed to measure a construct considered to be unrelated to or independent of the first construct.

Many researchers have noted that the multitrait-multimethod approach is useful when measuring the construct validity of a performance appraisal form (Dickinson and Tice, 1973; Boruch et al., 1970; Dickinson, 1977). However, this method is available for use when the employee's performance evaluation is executed using several types of rating such as supervisor, peer, or self-rating. If only one type of rating is used with the performance appraisal form, the analytical procedure of this method is limited to analysis of the construct structure among the dimensions. In such cases the researcher must use other methods to examine the validity of the performance appraisal form.

Factor analysis provides a second type of assessment of construct validity. The structure of factor loadings can identify whether a single composite criterion or multiple criteria exist in the form. The composite criteria provide a

measure of the overall "success" of an individual. Multiple criteria that measure different concepts or dimensions should not be combined as a unique variable.

In summary, any test construction procedure is affected by measurement error. Since such errors cannot be eliminated, potential sources of error must be identified and, whenever possible, accounted for. This section has described how measurement error can influence the performance appraisal instrument. Possible sources of error can come from outcomes and behavior selected to represent successful performance, selection of items to be used in the performance appraisal instrument to measure outcomes and behavior, scoring values assigned to items used, procedures used to determine test reliability and methods used to demonstrate test validity. This section also described how possible sources of measurement error can be reduced.

## SUMMARY AND CONCLUSIONS

This manuscript has attempted to demonstrate how measurement of the organizational effectiveness of Cooperative Extension Service could be enhanced utilizing a multidimensional perspective in measuring outcomes of various organizational activities. Because the major activities of Cooperative Extension Service relate closely to the involvement of constituents in the program development process, it was postulated that measures of organizational effectiveness should be based on the Extension educational system of program development. It was further postulated that because

organizations are effective to some degree in terms of specific constraints, goals, constituents, and time frames, the contradictory nature of organizational effectiveness must be considered in analyzing effectiveness of Extension Service to carry out its system activities (Hall, 1982). Finally, because of the importance of individual performance in carrying out such system activities, measures of organizational effectiveness were linked to measures of individual performance. In sum, the conceptual framework of organizational effectiveness proposed in this paper measures critical behavior necessary for effective performance (inputs), individual performance (outputs) and changes in behavior of constituency (program results) within a framework that recognizes multiple and conflicting factors impinging upon the organization.

Five procedural requirements are necessary if such a conceptual framework is to provide accurate and relevant results. First, a needs assessment of relevant problems to be addressed must be undertaken. Without documentation of constituent problems, goal accomplishments may have little meaning. Second, a job analysis of critical incidents necessary for effective performance must be accomplished to provide a basis from which defensible standards can be derived. Third, multivariate measurement and analyses must be utilized in assessing the accuracy and relevance of measures used in determining individual performance and program accomplishments as they relate to organizational effectiveness. Fourth, analysts and others must

recognize the existence of factors beyond organizational control and the range of options open to organizations (such as Cooperative Extension) as they confront constraints and mandates and attempt to move toward goal accomplishment and cope with the issues of multiple constituents and conflicting time frames (Hall, 1982). Finally, if Cooperative Extension Service is indeed concerned about measuring the organizational effectiveness of the Extension educational system, adequate resources and administrative support must be committed to the task. To do otherwise will not enable Extension to adequately answer the question, "did it make any difference whether Extension was involved?"

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Figure 1

Cooperative Extension Educational System

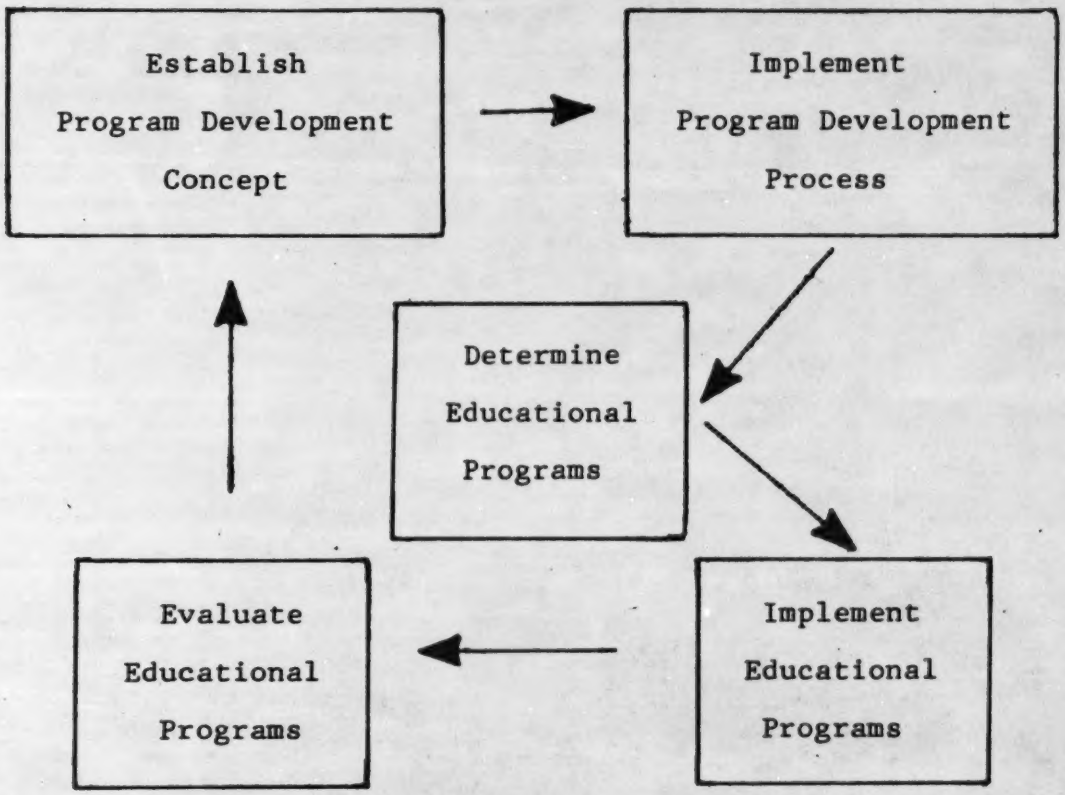

Figure 2

Personnel and Program Evaluation of the Cooperative Extension Educational System

| System Component | Performance Evaluation County Extension Agents | | Program Evaluation |
|---|---|---|---|
| | Critical Behavior (Inputs)* | Performance Goals (Outputs)* | Constituent Behavior Desired (Results)* |
| Establish support for program development | Interact with constituents | Constituents accept concept of program development | Level and quality of support for program development |
| Implement program development process | Identify potential members for program development committee | Program development committee organized and trained in program development process | Constituency representativeness of the committee<br>Knowledge of the committee |
| Program determination | Plan meetings<br>Provide resources | Plan of work | Committee involvement in planning programs<br>Documentation of relevant problems and target audiences to be addressed |
| Program implementation | Advertise programs using relevant dissemination methods<br>Prepare for educational programs | Conduct timely educational programs on relevant topics using appropriate educational techniques | Involvement of target audiences<br>Reactions of target audiences |
| Program evaluation | Develop an evaluation plan | Conduct program evaluation and prepare a report of findings | Measure changes made by target audiences<br>Use evaluation report for program accountability and program improvement |



* Examples provided as illustrations

Figure 3

Example Weighted Checklist of Behavioral Outcomes

| Item | Scale Values |
|---|---|
| Has good community representation at planning sessions to set county priorities | 3.5 |
| Conducts well-organized educational programs | 1.5 |
| Minority involvement in program exceeds minimum requirements | 3.5 |
| Programs branch out to reach new audiences | 1.5 |
| Has little or no premature turn over among volunteer leaders | 3.5 |
| Uses needs assessment survey results to determine relevant program priorities | 2.5 |

Source: American Institutes for Research, 1979. Manual for County Extension Agents--Performance Review, Analysis, and Planning. Washington, D.C.

Figure 4

Example Behaviorally Anchored Rating Scale of Program Implementation Behaviors*

| Category | Value | Item |
|---|---|---|
| Extremely good performance | 7 | Conducts programs in the county in all locations to meet the needs of all people, irrespective of race, color, national origin, or economic circumstances. |
| Very good performance | 6 | Always does some teaching in every educational activity for which he/she has responsibility. |
| Good performance | 5 | Specialist involvement in educational programs using appropriate methods of teaching. |
| Neither poor nor good performance | 4 | Involves a few volunteers and local leaders in implementing programs. |
| Slightly poor performance | 3 | Gives generalized answers to callers with specific inquiries. |
| Poor performance | 2 | When he/she receives calls for technical assistance, makes excuses for not providing assistance requested. |
| Extremely poor performance | 1 | Gives information not documented by research. |

*Items are provided strictly for illustrative purposes. Values are not based on empirical evidence.

Source: American Institutes for Research, 1979. Manual for County Extension Agents--Performance, Review, Analysis and Planning. Washington, D.C.